Development Services

RESIDENTIAL DEPT.

# CONSTRUCTION DRAWINGS

## CITY OF TUCSON RESIDENTIAL PLAN REVIEW

An architect or an engineer usually prepares construction drawings for commercial projects; however, these services are also available to homeowners. Contractors may also be a useful resource when preparing construction drawings. Regardless of who prepares these documents, all drawings must be detailed, accurate, neat, and complete (no pencil).

The purpose of preparing and submitting a complete set of construction drawings:

- Help the homeowner to envision the entire project
- Assist in planning and estimating the cost and time for the project
- Prevent unpleasant surprises and last minute changes
- Provide all parties involved (homeowners, contractors, inspectors, plan reviewers, etc.) with clear instructions regarding layout, materials, and the expected finished product
- Expedite the plan review process
- Enable the Development Service Department to provide better service by identifying potential code problems and recommending solutions

Two copies of the construction drawings are required to obtain a building permit. This is a sample outline for small projects. Multiple different drawings may be required depending on the extent of the project. Refer to the Full Plan Submittal Checklist for additional requirements. Some of the drawings that may be required are discussed below.

**SITE PLAN:**

The site plan is a 'birds-eye' view of the entire property. If the work being done is an addition to an existing structure, shade the new area. Some of the details required on the site plan are listed below.

- ❑ Scale used
- ❑ Address and owner of property
- ❑ Compass rose and name of adjoining streets
- ❑ Location and dimension of the property lines, easements, and adjoining streets
- ❑ Dimension from property lines to all structures (existing and proposed)
- ❑ Dimensions between structures
- ❑ Square footage of all new and proposed structures including patios, carports, and garages
- ❑ Lot size and coverage
- ❑ Location of all utilities (gas, water, sewer/septic, electric) and respective meters or panels
- ❑ Define overhead, aboveground, or underground for utilities
- ❑ Building height for each side of proposed structure (north, south, east, west)
- ❑ Zoning of property and adjoining properties

**FLOOR PLAN:** A floor plan is a birds-eye view of the building with the roof removed. Depending on the specific project, the floor plan must show any part of the structure that will be affected by the project. For example, an existing room must be shown if a new room will be attached to it.

- ❑ Scale used (min. ¼" = 1')
- ❑ Neat, organized, and legible print (min. 12pt. font)
- ❑ Name and year of code used
- ❑ Size and use of every room
- ❑ Size and type of every door and window
- ❑ All plumbing fixtures, water heater, furnace, appliances, built-in cabinets, etc

**FOUNDATION**

- ❑ Size and depth of all footings
- ❑ Location of interior footings
- ❑ Thickness of slab
- ❑ Size and spacing of the reinforcing steel
- ❑ Soil bearing values

**ROOF / FRAMING**

- ❑ Size, spacing, and location of rafters, joists, trusses, and beams
- ❑ Size and type of all hardware connecting/supporting such members
- ❑ Location of all bearing walls and supporting posts
- ❑ Size and material of headers (or lintel for masonry const.) over all windows and doors
- ❑ Roofing material
- ❑ The use of pre-manufactured trusses require engineer stamped drawings

**DETAILS / CROSS SECTIONS:** A cross section is a view of a structure that has been sliced vertically and separated, thus providing details of how the building is constructed. This drawing is required for any type of structure.

- ❑ Cross references to the floor, foundation, or framing plan to which the detail applies
- ❑ Size and depth of underground footings
- ❑ Reinforcing steel in concrete or masonry
- ❑ Relative exterior grade level
- ❑ Thickness of slab w/min. height above grade
- ❑ Wood framing:
  - ❑ Material used
  - ❑ Size and spacing of wall material
  - ❑ Size and spacing of anchor bolts
  - ❑ Specific hardware used at all connections
  - ❑ Size and type of sheathing/exterior covering
- ❑ Masonry:
  - ❑ Size and type of material
  - ❑ All reinforcing steel
  - ❑ Location of bond beams
  - ❑ Size and spacing of ledger bolts and or ties
  - ❑ Size and spacing of top plate anchor bolts
  - ❑ Interior furr-out walls
- ❑ Specify interior covering
- ❑ Specific hardware at all rafter/joist connections
- ❑ Size, spacing, and type of all rafters/joists
- ❑ Length of overhang/eave
- ❑ Pitch of roof
- ❑ Roofing material
- ❑ Insulation (R-values)

**ELEVATIONS**

- ❑ Exterior view of each side
- ❑ Height of roof line
- ❑ Height of structure
- ❑ Exterior covering
- ❑ Size and operable portion of windows
- ❑ Roofing material
- ❑ Roof pitch
- ❑ Any architectural details associated with the appearance
- ❑ U-value for windows

**ELECTRICAL PLAN**

- ❑ Identify use of each room
- ❑ Location of panels and disconnects
- ❑ Location of all receptacles, lights, switches, and smoke detectors with appropriate circuit numbers
- ❑ Electrical panel schedule
- ❑ Load Calculations
- ❑ Service riser diagram

**PLUMBING PLAN**

- ❑ Location of all new and existing fixtures
- ❑ Size and type of materials
- ❑ Size and location of all drains, vents, and clean-outs
- ❑ Location of temperature and pressure relief line
- ❑ Location and method of tie-in to existing lines
- ❑ Location of any gas lines
- ❑ Location and size of water and gas meters
- ❑ Location of shut-off valves
- ❑ Resident water pressure
- ❑ Total developed length of water and gas lines
- ❑ Fixture unit calculations
- ❑ Waste and gas isometrics
- ❑ Diameter and length of each gas line branch
- ❑ Demand for each gas appliance

**MECHANICAL PLAN**

- ❑ Size, type, and location of all mechanical equipment
- ❑ Access and working space for mechanical units
- ❑ Size, type, and location of ducts and registers
- ❑ Size and location of return air ducts and registers
- ❑ Size and location of combustion air inlets
- ❑ Size, location, and material of condensate lines

(Additional information may be required)